

**BEFORE THE  
PUBLIC UTILITIES COMMISSION  
OF THE  
STATE OF RHODE ISLAND**

**IN THE MATTER OF**

**The Narragansett Electric Company )  
d/b/a Rhode Island Energy Issuance of )  
Advisory Opinion to Energy Facilities )  
Siting Board Regarding the Narragansett )  
Electric Co. Application to Construct )  
LNG Vaporization Facility )**

**Docket 22-42-NG**

**DIRECT TESTIMONY OF WITNESSES**

**BRUCE R. OLIVER**

**AND**

**PAUL ROBERTI**

On Behalf of

**The Division of Public Utilities and Carriers**

*March 13, 2023*

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AND PAUL ROBERTI**  
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**LIST OF ATTACHMENTS**

- DIV - 1    Resume for Bruce R. Oliver**
- DIV - 2    RI and Aquidneck Island Population Projections**
- DIV - 3    U.S. Department of the Navy, Climate Action 2030 Report**
- DIV - 4    Reference Data Request Responses**

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**I. INTRODUCTION**

**A. BRUCE R. OLIVER**

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.**

A. My name is Bruce R. Oliver. My business address is 7103 Laketree Drive, Fairfax Station, Virginia, 22039.

**Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

A. I am employed by Revilo Hill Associates, Inc., and have served as President of the firm since its establishment in 1985. I manage the firm's business and consulting activities, and direct the preparation and presentation of economic, utility planning, and regulatory policy analyses for our clients.

**Q. HAVE YOU PARTICIPATED IN PRIOR REGULATORY PROCEEDINGS RELATED TO GAS UTILITY OPERATIONS IN RHODE ISLAND?**

A. Yes. Since the early 1990s I have participated in more than 60 proceedings relating to Rhode Island's gas utilities before the Rhode Island Public Utilities Commission ("RIPUC"). (See Attachment DIV - 1 to this testimony for a copy of my resume which includes a listing of those cases). I was also a witness in three prior proceedings before the Division of Public Utilities and Carriers ("Division") relating to: (1) PPL's acquisition of National Grid's Rhode Island operations; (2)

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1 National Grid's acquisition of New England Gas Company; and (3) the merger of  
2 Southern Union, Valley Gas Company, and Bristol and Warren Gas Company.

3

4 **Q. HAVE YOU PARTICIPATED IN UTILITY REGULATORY PROCEEDINGS IN**  
5 **OTHER JURISDICTIONS?**

6 A. Yes. I have been a participant and provided expert testimony in over 300 utility  
7 gas, electric, and water utility regulatory proceedings in 26 jurisdictions across the  
8 U.S., its island territories, and Canada. In those proceedings I have addressed a  
9 wide range of ratemaking and regulatory policy issues, including many utility gas  
10 forecasting, planning, and economic justification issues. I have presented  
11 testimony specifically focused on gas utility ratemaking, planning, safety, and  
12 regulatory policy issues in 16 jurisdictions.

13

14 **B. PAUL ROBERTI**

15

16 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.**

17 A. My name is Paul Roberti. My business address is 89 Jefferson Boulevard,  
18 Warwick, RI, 02888.

19

20 **Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

21 A. I am employed by the Division of Public Utilities and Carriers as its Chief Economic  
22 and Policy Advisor.

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**Q. PLEASE SUMMARIZE YOUR EXPERIENCE AND QUALIFICATIONS.**

A. I have a long history of involvement in gas regulatory proceedings in Rhode Island. After serving as an Assistant Attorney General and functioning as counsel for the Division of Public Utilities and Carriers for 17 years (i.e., 1992 - 2009), I was appointed as a Commissioner and served on the Rhode Island Public Utilities Commission from 2009 to 2015. After leaving the Commission, I was employed as an Executive Director for Ernst & Young where I provided strategic advice to clients navigating Mexico’s efforts to reform its natural gas and power sectors. In 2016, I received NARUC’s Terry Barnich Award in recognition of my work in advising the nations of Moldova, Georgia, Nigeria, India, Jamaica, and Mexico on energy policy. In March 2018, I was appointed Chief Counsel of the Pipeline and Hazardous Materials Safety Administration (“PHMSA”) within the U.S. Department of Transportation and served in that position until 2021. As Chief Counsel for PHMSA I directed a large staff of attorneys engaged in the litigation of numerous transportation safety issues, where prominent among those issues were matters relating to natural gas pipelines and LNG facilities.

**C. JOINT TESTIMONY**

**Q. ON WHOSE BEHALF DO YOU APPEAR IN THIS PROCEEDING?**

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1 A. Our testimony in this proceeding is presented on behalf of the Division of Public  
2 Utilities and Carriers (hereinafter "the Division").  
3

4 **Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?**

5 A. This testimony addresses issues relating to the request of the Narragansett  
6 Electric Company, d/b/a Rhode Island Energy, (hereinafter "TNEC," "RI Energy,"  
7 or "the Company") for authorization to establish permanent Liquefied Natural Gas  
8 vaporization facilities on Aquidneck Island. As part of our efforts to evaluate the  
9 merits of that request, we will discuss: (1) the Company's evaluation of the need  
10 for such facilities; (2) the economics of the Company's proposed ownership and  
11 operation of such facilities in the context of Rhode Island's climate policies; and (3)  
12 alternative means for satisfying the Company's Aquidneck Island service require-  
13 ments. Thus, this testimony responds to Issues 1, 2, 2A, and 5 as set forth in the  
14 October 19, 2022 Preliminary Decision and Order of the Energy Facility Siting  
15 Board (SB -2021-04).  
16

17 **Q. HOW IS THIS TESTIMONY STRUCTURED?**

18 A. This testimony is presented in four sections. After this introduction, we provide a  
19 brief summary of our testimony (Section II), followed by a more detailed discussion  
20 of issues (Section III), and our conclusions and recommendations (Section IV).  
21

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1   **Q.   WHAT DOCUMENTS HAVE YOU RELIED UPON IN THE PREPARATION OF**  
2   **THIS TESTIMONY?**

3   A.   The primary documents relied upon include: (1) the “*Application of Narragansett*  
4   *Electric Company for License to Construct and Alter Major Energy Facilities*” filed  
5   with the RI Energy Facility Siting Board; (2) the Company’s pre-filed Direct Testi-  
6   mony in this proceeding (sponsored by witnesses Montigny, Porcaro, Kirkwood,  
7   and Olney); (3) the National Grid, September 2020, “*Aquidneck Island Long-Term*  
8   *Gas Capacity Study*;” (4) the Division’s October 30, 2019 Investigation Report “Into  
9   the Aquidneck Island Gas Service Interruption of January 21, 2019;” (5) the June  
10   30, 2022 TNEC “*Gas Long-Range Resource and Requirements Plan for the*  
11   *Forecast Period 2022/23 to 2026/27*” filed in Docket No. 22-06-NG; and (6) the  
12   Company’s responses to data requests submitted by the Division and other parties  
13   to this proceeding. However, we also examined information from sources outside  
14   this docket, many of which are referenced herein.

**II. SUMMARY**

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18   **Q.   PLEASE SUMMARIZE YOUR ASSESSMENT OF THE ISSUES ADDRESSED IN**  
19   **THIS TESTIMONY.**

20   A.   The issues in this proceeding focus on the gas service requirements for a limited  
21   portion of the Company’s overall gas service in Rhode Island (i.e., Aquidneck  
22   Island) under specific circumstances that are generally acknowledged to be **low**

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1       **probability events.** The issues ask the Commission to address economic,  
2       environmental, and service reliability aspects of TNEC’s proposed approach to  
3       meeting those limited and irregular service requirements as we move forward in  
4       time. Unfortunately, we find that the Company’s assessments of gas service  
5       requirements for Aquidneck Island and the costs of alternatives for meeting those  
6       requirements ignore information regarding the actual customer and usage growth  
7       patterns that can be for Aquidneck Island. In fact, as will be developed further  
8       herein, recent trends in population, customer growth, and sales growth for  
9       Aquidneck Island appear incongruent with the **system-wide** growth trends on  
10      which TNEC has relied in its assessment of future Aquidneck Island service  
11      requirements. The absence of a more detailed assessment of actual Aquidneck  
12      Island data is a prominent shortcoming in TNEC’s assessment of Aquidneck Island  
13      LNG vaporization requirements.

14             In addition, the Company’s assessment of LNG vaporization requirements  
15      for Aquidneck Island includes three distinct elements. The first relates to the  
16      availability of gas supply to meet **peak hour** demands as weather approaches  
17      design conditions. The second component is premised on the need to have gas  
18      supplies to address upstream pipeline supply disruptions that may occur at any  
19      time during a year regardless of weather. The third component is the provision of  
20      gas supplies to maintain continuous gas service to Aquidneck Island during supply  
21      disruptions that are expected to occur as part of planned Algonquin Gas  
22      Transmission Company (“AGT”) construction to replace and repair the segment of

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1           its G System lateral that connects Aquidneck Island to the rest of the AGT system.  
2           These components of the Company's support for LNG vaporization reflect very  
3           different considerations that need to be addressed separately and not blurred  
4           together in a single assessment.

5           We also find that despite the Company's programs to foster greater  
6           efficiency in gas use within its service territory, TNEC's support for its requested  
7           authorization lacks a well-developed examination of the manner in which  
8           Aquidneck Island service requirements and supply alternatives are influenced by  
9           the Company's energy efficiency programs. TNEC's September 30, 2022 filing in  
10          RIPUC Docket No. 22-33-EE touts the cost-effectiveness of its planned Energy  
11          Efficiency programs and suggests a benefit-cost ratio for its gas energy efficiency  
12          programs of 2.97.<sup>1</sup> Yet, the Company's consideration of alternatives to LNG  
13          vaporization on Aquidneck includes no consideration of such programs to eliminate  
14          the need for the comparatively expensive, sporadic, use of LNG vaporization for  
15          this limited segment of the Company's service territory. We do not intend to imply  
16          that expanded energy efficiency programs are the full answer to Aquidneck Island  
17          gas supply concerns. Rather, we suggest that the potential for such programs (as  
18          well as other DSM and/or Electrification programs to mitigate the magnitude of  
19          perceived supply shortages during extreme, low probability events) has not been

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<sup>1</sup> Docket No. 22-33-EE, the Joint Pre-Filed Testimony (of multiple witnesses) on behalf of TNEC, at page 15 of 36, lines 6-9, and Attachment 6, Table G-5. As explained therein, the estimated 2.97 cost-benefit ratio suggests that each \$1.00 spent on such programs will yield \$2.97 in lifetime benefits.

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1       adequately examined. When viewed in the context of the limited numbers of gas  
2       customers and Dth of load served on Aquidneck Island, the benefits of avoiding  
3       LNG vaporization would vastly increase the already strong benefit-cost relation-  
4       ship for such programs.

5               Likewise, absent from TNEC’s presentation is a detailed assessment of the  
6       impacts Rhode Island’s legislated decarbonization goals can be expected to have  
7       on Aquidneck Island service requirements. In our assessment, neither TNEC’s  
8       forecasting of future Aquidneck Island gas service requirements nor its assess-  
9       ments of alternatives to LNG vaporization on Aquidneck Island reflect adequate or  
10      appropriate consideration of either the impacts of the programs the Company is  
11      already pursuing to achieve climate-related goals or the focused application of  
12      such programs to Aquidneck Island to accelerate reductions in projected peak hour  
13      service requirements. Further, as noted in the Direct Testimony of TNEC witness  
14      Olney, the analysis of GHG emissions impacts of the Aquidneck LNG vaporization  
15      project that he presents was “*performed prior to the announcement of Rhode*  
16      *Island’s High-Efficiency Heat Pump Program and the passing of the federal*  
17      *Inflation Reduction Act.*”<sup>2</sup>

18              Recognizing that an expansion of interstate gas pipeline capacity to  
19      Aquidneck Island appears to be a comparatively expensive alternative, the Com-  
20      pany’s the examination of other options for maintaining reliable service to

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<sup>2</sup> Docket No. 22-42-NG, the Direct Testimony of TNEC witness Olney, page 7, Footnote 1.

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1 Aquidneck Island is essential to efforts to justify the establishment of a permanent  
2 LNG facility. Yet, many options have not been fully explored. Among the alter-  
3 natives that warrant further consideration are: (1) targeted energy efficiency and/or  
4 electrification offerings for Aquidneck Island; (2) an expanded interruptible service  
5 discount for customers on Aquidneck Island who are willing to take non-firm  
6 service; and/or (3) the adoption of a service curtailment plan for Aquidneck Island  
7 that would ensure the availability of gas service for essential gas services during  
8 periods of high demand.

**II. BACKGROUND**

**A. History of Aquidneck Island LNG Operations**

14 **Q. WHAT IS THE HISTORY OF THE USE OF LNG TO MEET AQUIDNECK ISLAND**  
15 **GAS SERVICE REQUIREMENTS?**

16 A. The use of LNG vaporization on Aquidneck Island pre-dates NEC's assumption of  
17 responsibility for Southern Union's RI gas distribution business in 2006. Until 1991  
18 peak shaving (i.e., supplemental gas supplies in excess of pipeline deliveries) was  
19 provided for Aquidneck Island using propane. For the winter of 2001-2002, a one-  
20 year special permit was obtained from the Town of Portsmouth to operate a LNG

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1 mobile peak shaving facility at the same site.<sup>3</sup> The first LNG vaporization facility  
2 on Aquidneck Island was intended to ensure the availability of natural gas for the  
3 U.S. Navy facilities on the island and was located on property leased to TNEC (and  
4 its predecessors) by the U.S. Navy. Use of that facility for purposes other than  
5 testing was limited. After the Company contracted for an incremental 6,000 Dth  
6 per day of pipeline delivery capability from Algonquin Gas Transmission in 2010,  
7 the LNG facility was no longer required for peaking purposes and was mothballed.

8 For the summer of 2019, the Company had plans to use portable LNG  
9 equipment when maintenance scheduled to be performed by AGT on its interstate  
10 pipeline facilities would eliminate gas flows to Aquidneck for the maintenance  
11 periods. However, TNEC did not anticipate any need for LNG vaporization on  
12 Aquidneck during the winter of 2019-2020, and the available portable LNG  
13 vaporization equipment was reported to be in storage during that period. Thus, on  
14 January 21, 2019 when colder than normal weather coupled with supply problems  
15 on both the TNEC and AGT systems produced a supply shortfall for Aquidneck  
16 Island, there was no LNG available to alleviate that problem. Following the  
17 January 21, 2019 gas supply disruption, portable LNG equipment was again set  
18 up.<sup>4</sup> However, the reported **peak hour** demand for Aquidneck Island for that winter  
19 remained below the Company's contracted interstate pipeline capacity.

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<sup>3</sup> TNEC's response to Middletown Data Request 1-3, part a.

<sup>4</sup> Ibid., part b.

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1           In the subsequent three winters (i.e., 2019/20, 2020/21, and 2021/22),  
2           reported peak hour demands for Aquidneck Island never exceeded 951 Dth/hour  
3           or about 91% of the Company’s contracted interstate pipeline capacity for its  
4           Portsmouth take station.<sup>5</sup>

5  
6   **Q. TO DATE, HAVE LNG FACILITIES ON AQUIDNECK ISLAND EVER BEEN**  
7   **INTENDED TO ENSURE RELIABLE GAS SERVICE TO ALL OF THE**  
8   **COMPANY’S CUSTOMERS ON AQUIDNECK ISLAND UNDER ALL**  
9   **CONDITIONS?**

10   **A.** No. Its primary purpose has been to supplement the Company’s pipeline gas  
11   supplies during periods of extreme “*design day*” or “*design hour*” weather  
12   conditions.

13  
14   **B. Recent Events**

15  
16   **Q. HAVE THERE BEEN RECENT EVENTS THAT MAY INFLUENCE CONSIDER-**  
17   **ATIONS REGARDING THE NEED FOR LNG VAPORIZATION ON AQUIDNECK**  
18   **ISLAND?**

19   **A.** Yes. In early February of this year a brief period of extreme cold and high winds  
20   was experienced in Rhode Island. For its February 3, 2023 gas day, TNEC has

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<sup>5</sup> TNEC’s response to Division Data Request 1-3.

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1 reported **peak hour** sendout for Aquidneck Island of 1,171 Dth and a daily sendout  
2 of 21,335 Dth.<sup>6</sup> The reported peak hour is 126 Dth per hour more than the 1,045  
3 Dth/hour of deliveries that the Company used in its planning for the winter of  
4 2022/23 for AGT capacity available at Portsmouth. The Company reported only  
5 62 HDDs for that day. That is less extreme than its 68 HDD assumed design day  
6 conditions. However, the peak hour temperature was -9 degrees Fahrenheit or  
7 the equivalent of 74 HDDs if it persisted for a 24-hour period. Moreover, the cold  
8 weather on that day was coupled with high winds that produced substantial wind  
9 chill effects which are not discussed by TNEC. Actual temperatures in the early  
10 morning hours of the gas day that ran from 10:00 a.m. February 3, 2023 to 9:59  
11 a.m. on February 4, 2023 were between -5 degrees F and -9 degrees F with winds  
12 ranging between 12 and 25 MPH. Thus, the Company's peak hour on that day  
13 met or exceeded design peak hour conditions and still required less than 20% of  
14 the available LNG vaporization capacity for Aquidneck Island.

15  
16 **Q. DO THE WEATHER CONDITIONS EXPERIENCED ON FEBRUARY 3-4, 2023**  
17 **SUGGEST THAT THE COMPANY NEEDS TO PREPARE FOR EVEN MORE**  
18 **EXTREME HOURLY DEMAND REQUIREMENTS IF DESIGN DAY CONDI-**  
19 **TIONS ARE EXPERIENCED IN A FUTURE WINTER PERIOD?**

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<sup>6</sup> TNEC's response to Division Data Request 2-1.

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1 A. No. The peak hour requirements experienced on the gas day from 10:00 a.m.  
2 February 3 – 10:00 a.m. February 4 in 2023 should be viewed as representing a  
3 highly infrequent extreme event. Moreover, even though **design day** conditions  
4 were not achieved on that day, there is **no basis** for assessing that the colder  
5 average temperature day for a **design day** (i.e., -3 degrees F) would produce a  
6 more extreme **peak hour** gas supply requirement for Aquidneck Island.

7

8 **Q. DOES THIS RECENT EVENT SUPPORT A CONCLUSION THAT THE NEED**  
9 **FOR LNG VAPORIZATION ON AQUIDNECK ISLAND IS UNAVOIDABLE?**

10 A. No. As will be developed further herein, it simply highlights the limited magnitude  
11 of the peak hour load reductions that need to be achieved to fully negate the need  
12 for LNG vaporization on Aquidneck Island.

13

14 **C. Climate Act Considerations**

15

16 **Q. WHAT INFLUENCE SHOULD THE CLIMATE ACT HAVE ON ASSESSMENTS**  
17 **OF THE NEED FOR PERMANENT LNG VAPORIZATION FACILITIES ON**  
18 **AQUIDNECK ISLAND?**

19 A. The Climate Act is a significant piece of legislation that warrants consideration in  
20 the evaluation of essentially all energy utility related planning options for Rhode  
21 Island. It would be naïve to suggest that the Climate Act will have no impact on  
22 future gas supply requirements for Aquidneck Island. Yet, the Company's filings

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1 reflect only limited consideration of Climate Act impacts.<sup>7</sup> For example, the data  
2 and analyses relating to Electrification, Energy Efficiency, and Demand Response  
3 options provided by TNEC only reflect consideration of generalized system-wide  
4 offerings, and suggest that all of those options are comparatively very expensive,  
5 and unlikely to represent cost-effective alternatives. Acceptance of those  
6 generalized conclusion would raise considerable doubt regarding the likely  
7 success of Rhode Island’s efforts to meet its climate-related objectives. Yet, they  
8 contradict the analyses presented by TNEC in Docket No. 22-33-EE which suggest  
9 that the Company’s gas energy efficiency programs produce strong benefit cost  
10 ratios.

11 Given the recent nature of the Climate Act legislation, it is understandable  
12 that TNEC has not had the opportunity to fully evaluate the law’s implications and  
13 incorporate the expected impacts of the Act in its filings to date in this proceeding.  
14 However, in the context of the observations and analyses presented herein, the  
15 existence of the Climate Act strongly suggests that further development of such  
16 impacts could prove important to questions relating to the need for Aquidneck  
17 Island LNG vaporization.

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<sup>7</sup> The Company’s response to Division Data Request 1-14 states:

*As future impacts on the natural gas distribution business are known as a result of the Act on Climate or Docket No. 22-01-NG, Rhode Island Energy will evaluate those future impacts as well as the impacts associated with the key policy priorities outlined by the PUC such as reliability, cost, equity, energy burden, and economic sustainability.*

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**III. DISCUSSION OF ISSUES**

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**Q. WHAT ARE THE PRIMARY MATTERS THAT YOU INTEND TO ADDRESS IN THIS DISCUSSION OF ISSUES?**

- A. This Discussion of Issues is organized in three sections:
- 1. Evaluation of the need for LNG vaporization on Aquidneck Island;
  - 2. TNEC’s cost justification for Aquidneck Island LNG vaporization;
  - 3. Integration of Climate Act considerations.

**A. The Need for LNG Vaporization on Aquidneck Island**

**Q. HAVE YOU REVIEWED THE FORECASTS OF FUTURE AQUIDNECK ISLAND GAS SERVICE REQUIREMENTS UPON WHICH TNEC HAS RELIED IN ITS ASSESSMENT OF THE NEED FOR LNG VAPORIZATION ON THE ISLAND?**

A. Yes. We have examined TNEC’s estimates of gas supply requirements for Aquidneck Island, as well as the data and methods utilized to produce those projections.

**Q. SHOULD THE COMMISSION ACCEPT TNEC’S ASSESSMENT OF AQUIDNECK ISLAND GAS SERVICE REQUIREMENTS?**

A. No. As previously observed in this testimony, the need for LNG vaporization on Aquidneck Island should be focused on the specific requirements of that limited

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1 and geographically restricted portion of the Company's gas service territory.  
2 However, the Company's projections of future gas services requirements for  
3 Aquidneck Island are premised on the application of a system-wide growth rate to  
4 historic Aquidneck Island wholesale service requirements. That approach is  
5 insensitive to the factors that should be expected to drive future Aquidneck Island  
6 gas service requirements, and as a result, overstates future Aquidneck Island gas  
7 demand.

8

9 **Q. ON WHAT INFORMATION DO YOU RELY TO SUGGEST THAT TNEC'S**  
10 **FORECASTS DO NOT APPROPRIATELY ASSESS FUTURE AQUIDNECK**  
11 **ISLAND GAS SERVICE REQUIREMENTS?**

12 A. At least three observations contribute strongly to that conclusion. First, TNEC's  
13 forecasts fail to address the impacts of declining population on the island,  
14 construction plans, and changes in service requirements. Second, the Company  
15 reflects a substantial lack of awareness of the energy and climate related programs  
16 being pursued by the U.S. Navy facilities on Aquidneck Island. Third, TNEC's  
17 forecasts appear insensitive to energy efficiency improvements that customers  
18 may pursue apart from the programs that it specifically sponsors and are  
19 insensitive to changes in costs of natural gas in wholesale commodity markets.

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Docket 22-42-NG  
March 13, 2023**

1           **1. Aquidneck Island Customer and Sales Growth**

2

3   **Q.    WHAT IS THE SYSTEM-WIDE GROWTH RATE THAT TNEC HAS UTILIZED IN**  
4       **ITS ESTIMATION OF FUTURE GAS SERVICE REQUIREMENTS FOR**  
5       **AQUIDNECK ISLAND?**

6    A.    The Company has used a 1.1% growth rate per annum to forecast increases in  
7       future design day and design hour volume requirements for Aquidneck Island.<sup>8</sup>  
8       That growth rate was estimated for its total system requirements and the Company  
9       then applied it to Aquidneck Island historical demand data.

10

11 **Q.    DO YOU FIND THE COMPANY’S SYSTEM AVERAGE GROWTH RATE TO BE**  
12 **INDICATIVE OF THE GROWTH THAT SHOULD BE EXPECTED FOR**  
13 **AQUIDNECK ISLAND GAS SERVICE REQUIREMENTS IN THE COMING**  
14 **YEARS?**

15 A.    No. The Company’s April 2022 “*Aquidneck Island Reliability Project*” report for the  
16 Energy Facility Siting Board shows strongly declining population for Middletown  
17 through 2040 and stagnant population figures for Portsmouth over the same  
18 period. The combined population projection for those two municipalities reflects a  
19 2.28% decrease between 2020 and 2030 and a 4.17% decrease between 2020

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<sup>8</sup> TNEC’s response to Division Data Request 1-5.

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1 and 2040.<sup>9</sup> We also have found population projections from the Rhode Island's,  
2 Division of Statewide Planning, Metropolitan Planning Organization that reflect  
3 similar projections. See Exhibit DIV-2.

4 Likewise, the Company's report documents declines in the Labor Force and  
5 in Resident Employment for Portsmouth and Middletown.<sup>10</sup> Perhaps  
6 correspondingly, data provided by the Company for gas service volumes (Therms)  
7 used by its five largest customers on Aquidneck Island also show noticeable  
8 declines in recent years. In 2018 TNEC's five largest customers on Aquidneck  
9 Island used 1,971,411 therms. In 2022, the five largest Aquidneck Island  
10 customers used only 1,806,518 therms. That represents a four-year **decline** of  
11 nearly 8.4%.

12  
13 **2. U.S. Navy Gas Service Requirements**

14  
15 **Q. DO YOU FIND THAT TNEC HAS REASONABLY EXAMINED THE FUTURE**  
16 **GAS SERVICE REQUIREMENT OF THE U.S. NAVY ON AQUIDNECK ISLAND?**

17 **A.** No. As historically one of the largest gas users on Aquidneck Island, the activities  
18 of the U.S. Navy can have a significant impact on the island's overall gas service  
19 requirements. However, the combination of the Company's forecasting of growth

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<sup>9</sup> "Aquidneck Island Gas Reliability Project," Energy Facility Siting Board Report, April 2022, page 84, Table 6-2, Population Projections, 2010 – 2040.

<sup>10</sup> Ibid., page 85, Table 6-3.

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1 in Aquidneck Island requirements based on a system-wide growth rate and the  
2 response to Division Data Request 1-6 suggest that TNEC has done little to  
3 investigate the Navy's future plans for gas use on Aquidneck Island. Division Data  
4 Request 1-6 inquired with respect to the Company's understanding of the U.S.  
5 Navy's energy conservation and energy efficiency goals for its facilities on  
6 Aquidneck Island. TNEC's response indicates a general unawareness of Navy  
7 activities with respect to energy conservation and energy efficiency. Although the  
8 response recognizes the U.S. Navy's participation in TNEC interruptible gas  
9 service, it is our understanding that the U.S. Navy's Interruptible service represents  
10 only a portion of the service requirements for gas service accounts on Aquidneck  
11 Island over which the Navy has direct influence or control.

12 As demonstrated by the U.S. Navy's recent "*Climate Action 2030*" report,<sup>11</sup>  
13 the U.S. Navy overall has very aggressive climate goals and targets, and it is  
14 difficult to perceive that goals and targets for its activities on Aquidneck Island are  
15 substantially less aggressive than those outlined in the referenced U.S. Navy  
16 report. Among the specific targets set forth in that report are:

- 17 • A 65% reduction in scope 1 and scope 2 greenhouse gas  
18 emissions by 2030; and
  - 19 • A 50% reduction in emissions from buildings by 2032.<sup>12</sup>
- 20  
21  
22

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<sup>11</sup> *Climate Action 2030*, U.S. Department of the Navy, May 25, 2022.

<sup>12</sup> *Ibid.*, page 13.

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1           It is difficult to perceive how the Navy's facilities on Aquidneck Island can  
2 achieve such goals without noticeable reductions in gas use. Thus, a greater  
3 understanding of the Navy's plans for future gas use in its facilities on Aquidneck  
4 Island would appear essential to any coherent assessment of the future need for  
5 LNG vaporization on the island. Likewise, greater information regarding the  
6 energy use plans of other major gas users on the island could improve the  
7 accuracy and reliability of the Company's estimates of future gas service  
8 requirements for Aquidneck Island.

9  
10           **3. Energy Efficiency and Gas Commodity Price Insensitivity**

11  
12   **Q. HAS THE COMPANY ADJUSTED ITS FORECASTS TO ACCOUNT FOR THE**  
13   **INCREMENTAL IMPACT OF ENERGY EFFICIENCY?**

14   **A.** TNEC indicates that it has reduced the results of its statistical/econometric  
15 forecasting models to account for Company-sponsored energy efficiency  
16 programs.<sup>13</sup> It does not, however, attempt to account for actions taken by cus-  
17 tomers outside of Company-sponsored programs.

18  

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<sup>13</sup> TNEC "Gas Long-Range Resource and Requirements Plan for the Forecast Period 2022/23 to 2026/27" filed in Docket No. 22-06-NG, June 30, 2022, page 8.

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1 **Q. WHY SHOULD ENERGY EFFICIENCY AND CONSERVATION MEASURES**  
2 **TAKEN BY CUSTOMERS, INDEPENDENT OF COMPANY-SPONSORED**  
3 **PROGRAMS, BE EXAMINED?**

4 A. Customers often take actions outside of utility-sponsored energy programs to  
5 improve the energy efficiency of their gas appliances and/or improve the thermal  
6 insulations of their structures. When existing appliances need to be replaced  
7 customers can evaluate the energy efficiency of new equipment available in the  
8 market. In the context of rising costs for natural gas service, customers have an  
9 incentive to evaluate the economics of installing more energy efficient equipment.  
10 Older gas heating equipment can have annual fuel utilization efficiency (AFUE) as  
11 low as 56%. Current standard efficiency gas furnaces have AFUE rates in the  
12 range of 80%. However, the best high-efficiency gas furnaces can now provide  
13 95-97% efficiency. Thus, the potential exists for significant energy efficiency  
14 improvements gas heating equipment. With gas furnaces generally expected to  
15 have useful lives between 15 and 30 years, at least one-third of the gas furnaces  
16 on Aquidneck Island appear likely to be replaced within the period of TNEC's  
17 examination of LNG vaporization requirements of Aquidneck Island regardless of  
18 the existence of Company-sponsored energy efficiency programs. Moreover, as  
19 the standards for the efficiency have increased, the percentage of new equipment

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1 installations that have noticeably improve energy efficiency should increase.<sup>14</sup>

2 These relationships are often not fully reflected in standard econometric forecasts.

3

4 **Q. DO THE COMPANY'S FORECASTS REASONABLY REFLECT CURRENT AND**  
5 **EXPECTED FUTURE GAS MARKET CONDITIONS?**

6 A. No, they do not. TNEC's estimates of future gas prices for its system are based  
7 on extrapolations of past pricing relationships. But over the last two to three years,  
8 natural gas markets have changed dramatically.

9

10 **Q. PLEASE BRIEFLY EXPLAIN THE GAS MARKET CHANGES THAT HAVE**  
11 **BEEN EXPERIENCED AND THAT ARE NOW INFLUENCING LONGER-TERM**  
12 **GAS MARKET PRICING?**

13 A. During the last decade, rapid expansion of gas drilling and production (particularly  
14 in eastern U.S. Marcellus and Utica shale formations) led to an oversupply of gas  
15 and significant declines in gas commodity prices. With declining gas commodity  
16 prices, many smaller and financially weaker producers were driven out of the  
17 market, and the ownership of gas reserves, drilling, and production activities has  
18 been consolidated. New drilling activity has fallen precipitously. As a result, the  
19 supply of natural gas has declined relative to demand, and prices have moved  
20 upward. The importance of these market structure changes has been accentuated

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<sup>14</sup> We note that on June 13, 2022, the U.S. Department of Energy announced a proposal to require that new residential gas furnaces be at least 95% fuel efficient.

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1 by substantial increases in the percentage of total electricity output that is now  
2 being supplied by natural gas-fired generation facilities that have placed large  
3 incremental requirements on both gas production operations and the pipelines  
4 relied upon to deliver such production. Additionally, growing uncertainties with  
5 respect to future requirements for traditional (non-renewable) gas supplies has  
6 forced gas producers to recognize that the time periods over which they can expect  
7 recovery of their fixed investment costs are now often shorter, and thus, greater  
8 fixed cost recovery per dekatherm of gas produced is essential to maintain  
9 profitability.

10 Although weather and world events will continue to have impacts on near-  
11 term gas prices, we have transitioned from a market, in which future year gas  
12 prices were generally cheaper than current prices, to a market with rising future  
13 period gas prices. Many individuals thought that increases in gas prices last fall  
14 were driven by the impacts of the Ukrainian War and Russian restrictions on gas  
15 flows to Northern Europe. However, those price increases were mostly driven by  
16 poorly conceived speculation which dissipated when market participants realized  
17 that U.S. LNG export facilities were operating at or close to full capacity leaving  
18 little opportunity for expansion of U.S. exports. The combination of warmer than  
19 normal weather in recent months and the realization of limits on the ability of the  
20 U.S. to expand LNG exports has caused gas commodity prices to plummet from  
21 last fall's highs, but longer-term gas prices continue to show strength.

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1           Thus, it should be expected that over the period analyzed by TNEC in this  
2 proceeding, natural gas commodity prices will continue to rise at rates generally  
3 above the overall rate of inflation. When coupled with TNEC’s increasing capital  
4 expenditure plans (as seen in its current ISR proceeding), the Commission must  
5 anticipate that rising overall costs of natural gas service for all RI gas customers  
6 will stimulate further conservation and energy efficiency even in the absence of  
7 Company-sponsored programs.

8  
9           **B. TNEC’s Assessment of Alternatives**

10  
11   **Q.   HOW DOES TNEC ADDRESS THE NEED FOR LNG VAPORIZATION ON**  
12   **AQUIDNECK ISLAND?**

13   A.   The Company’s assessment of the need for LNG vaporization on Aquidneck Island  
14 is addressed in the Direct Testimony of TNEC witness Porcaro. Witness Porcaro  
15 describes two facets of the island’s vulnerability to upstream gas supply  
16 disruptions, and then, almost as an afterthought, references a “*gap between the*  
17 *natural gas demand and the available natural gas capacity to Aquidneck Island on*  
18 *extreme cold days.*”<sup>15</sup>

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<sup>15</sup> The Direct Testimony of TNEC witness Porcaro at page 4, lines 7-10.

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1 **Q. SHOULD THE COMMISSION FIND WITNESS PORCARO’S EXPLANATION OF**  
2 **THE NEED FOR LNG VAPORIZATION ON AQUIDNECK ISLAND APPRO-**  
3 **PRIATE AND COMPELLING?**

4 A. No. The Company’s arguments with respect to supply vulnerabilities are  
5 essentially a “*red herring*” and a distraction from more important peaking capacity  
6 considerations. In addition, the witness’s reference to a gap between natural gas  
7 demand and gas supply capability for Aquidneck in the context of peaking capacity  
8 considerations must be viewed in the context of TNEC’s forecasts of gas use that  
9 are insensitive to factors that can and should be relied upon in the estimation of  
10 the magnitudes of future Aquidneck Island gas service requirements on extreme  
11 cold days.

12

13 **Q. DO YOU ACCEPT THAT CURRENT AND PROJECTED PEAK HOUR**  
14 **DEKATHERM REQUIREMENTS FOR AQUIDNECK ISLAND UNDER EXTREME**  
15 **WEATHER CONDITIONS CAN EXCEED THE G LATERAL CAPACITY THAT**  
16 **TNEC PRESENTLY HAS UNDER CONTRACT FROM THE ALGONQUIN GAS**  
17 **TRANSMISSION TO SERVE DEMANDS ON THE ISLAND?**

18 A. Yes. We accept that, under the extreme weather conditions experienced on  
19 February 3, 2023, the Company has reported peak hour demands that exceeded  
20 its available Algonquin Gas Transmission (“AGT”) G Lateral capacity. According  
21 to the Company’s June 30, 2022, “Gas Long Range Resource and Requirements  
22 Plan for the Forecast Period 2022/23 to 2026/27” the total pipeline deliveries

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1 available for Aquidneck Island were 1,045 Dth per hour.<sup>16</sup> However, on February  
2 3, 2023, the Company reports that it experienced an hourly demand of 1,171 Dth.  
3 That represents a pipeline capacity shortfall under extreme weather conditions of  
4 126 Dth/hr. Thus, despite the extreme cold and winds in the early morning hours  
5 of February 3, 2023, TNEC's reported peak demand was 19 Dth/hour less than its  
6 projected Winter 2022/23 design peak hour requirement for supplemental gas  
7 supplies of 145 Dth per hour.

8 In our assessment TNEC's estimates that its design day and design hour  
9 demands will grow at the system average growth rate and yield increasing design  
10 peak hour supply deficits are inflated. As a result, the magnitude of Company's  
11 estimated capacity deficiencies (i.e. requirements for LNG to supplement its pipe  
12 deliveries) are overstated throughout the forecast period.

13  
14 **Q. WHAT IS THE BASIS FOR YOUR SUGGESTION THAT ISSUES ASSOCIATED**  
15 **WITH THE VULNERABILITY OF AQUIDNECK ISLAND TO UPSTREAM**  
16 **SUPPLY DISRUPTIONS IS POTENTIALLY MISLEADING?**

17 A. As previously discussed herein, most gas distribution systems are vulnerable to  
18 supply disruptions on upstream pipelines. Few have the ability to ensure contin-  
19 uous gas supply reliability for **all customers** under **all conditions** if gas flows on  
20 upstream pipeline systems encounter significant disruptions during high demand

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<sup>16</sup> TNEC, June 30, 2022, "Gas Long Range Resource and Requirements Plan for the Forecast Period 2022/23 to 2026/27," Exhibit 2, page 1 of 5.

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1 periods. The Company's Aquidneck Island system has operated for decades  
2 without planning adequate backup capacity to ensure that all customers would  
3 have access to needed gas supplies at all times. Yet, such considerations appear  
4 to play a major role in TNEC's efforts to justify its LNG vaporization project for  
5 Aquidneck Island.<sup>17</sup> In fact, the Company's response to Middletown Data Request  
6 1-5 appears to suggest that the only option that might yield 100% reliability (i.e.,  
7 zero customer service interruptions) for Aquidneck Island customers is an AGT  
8 Reinforcement project.

9  
10 **Q. ARE THERE INCONSISTENCIES IN THE COMPANY'S ASSESSMENT OF THE**  
11 **NEED FOR, AND IMPACTS OF, LNG VAPORIZATION ON AQUIDNECK**  
12 **ISLAND?**

13 A. Yes. The Company's forecast of system-wide growth is significantly influenced by  
14 its perception that there will be continued conversions of customers from oil  
15 heating to gas heating.<sup>18</sup> However, in the Company's assessment of the GHG  
16 impacts of LNG vaporization on Aquidneck Island, TNEC witness Olney's  
17 "**baseline scenario**" assumes there would a **moratorium** placed on new gas

---

<sup>17</sup> The Company's reliance on such rationales is reflected in its March 3, 2023 Data Requests to the Division. For example, TNEC 1-1 asks:

*Does the Division of Public Utilities and Carriers ("Division") dispute that on island vaporization of LNG during heating seasons (November 1 to April 1) is **necessary to ensure reliable delivery of natural gas to all customers on Aquidneck Island in the event of an upstream supply disruption?** (Emphasis added.)*

<sup>18</sup> "Aquidneck Island Long-Term Gas Capacity Study," National Grid, Sept 2020, page 5 and Figure 1.

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1 service connections that would be served by the Portsmouth take station and the  
2 LNG vaporization project.<sup>19</sup> Although he also estimates other scenarios which do  
3 not include a moratorium on gas connections, our observation is that his “*baseline*”  
4 assumption is not consistent with the Company’s load forecasting assumptions.  
5 The importance of that difference needs to be reflected in the Company’s assess-  
6 ment of forecasted Aquidneck Island service requirements. Furthermore, at this  
7 time we are not aware of any proposal from TNEC for a moratorium on new gas  
8 service connections on Aquidneck Island, but if such a moratorium is imposed it  
9 could have a significant impact on the Company’s assessment of its design peak  
10 hour service requirements for the island and the need for LNG vaporization to  
11 supplement its pipeline gas supplies during extreme winter weather conditions.<sup>20</sup>

12

13 **Q. DO YOU OFFER ANY OBSERVATIONS REGARDING THE TESTIMONY OF**  
14 **TNEC WITNESS MONTIGNY?**

15 A. Yes. Witness Montigny suggests that the Company’s purchase of LNG  
16 vaporization equipment “*gives the Company more control over having new and*

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<sup>19</sup> The Direct Testimony of TNEC witness Olney at page 4, lines 9-14.

<sup>20</sup> Although a moratorium on new gas connections may be a useful tool in efforts to avoid the need for permanent LNG vaporization facilities on Aquidneck Island, this testimony does not necessarily endorse that option. Our preference would be for scenarios that avoid the need for LNG vaporization through other options, such that customers retain the ability to seek the most economic alternatives for meeting their heating requirements. However, if other alternatives fail to provide adequate assurance that Aquidneck Island demands on extreme cold days can be served within the limits of available pipeline capacity, we would be open to consideration of the use of a moratorium on new service connections to avoid the need for rarely required LNG vaporization.

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1        *modern equipment on hand that is correctly sized and fit for use.*<sup>21</sup> However,  
2        TNEC presents no information regarding differences in the sizing of the rental  
3        equipment it presently uses and the sizing of the equipment TNEC plans to  
4        purchase. We find nothing that suggests, for example, that the maximum Dth/hour  
5        for the equipment it intends to purchase would differ from the maximum hourly  
6        capabilities of the rental equipment it presently uses.

7                Likewise, we find no evidence in the Company’s presentation that the rental  
8        equipment it presently rents has not been properly maintained and/or has been  
9        declared not fit for use.

10                Witness Montigny also asserts that the Company’s purchase of LNG  
11        vaporization equipment “**guarantees**” that the Company will always have storage  
12        and vaporizing equipment available **immediately** in case of a supply emergency.<sup>22</sup>  
13        However, that representation appears to be in conflict with the testimony of TNEC  
14        witness Kirkwood who explains the need to have LNG vaporization equipment in  
15        a **ready state** to avoid damage to the equipment when it is operated to vaporize  
16        LNG. It also appears to ignore witness Kirkwood’s statement that “*Equipment*  
17        *would need to be kept locally to setup and become operational within **two weeks.**”*

18        Thus, the Company’s ownership of LNG vaporization equipment does not  
19        guarantee that such equipment will be immediately available in the case of an  
20        unforeseen supply emergency. Rather, immediate response to a supply

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<sup>21</sup> The Direct Testimony of TNEC witness Montigny, page 5 of 7, lines 2-4.

<sup>22</sup> Ibid., lines 5-7.

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1 emergency is dependent on the equipment being already heated and in an  
2 “operational” state.

3  
4 **Q. HAS TNEC ADEQUATELY ASSESSED ALTERNATIVES TO LNG VAPORIZA-**  
5 **TION ON AQUIDNECK ISLAND?**

6 A. In our assessment it has not. TNEC’s assessments are driven by: (1) assumptions  
7 of continued growth in Aquidneck Island gas service requirements at rates that  
8 mimic the Company’s projected overall gas system growth rate; and (2) an  
9 expectation that non-supply options cannot adequately eliminate its perceived  
10 need for LNG vaporization for Aquidneck Island. Its assessments are also  
11 impeded by a blurring of considerations relating to: (a) maintenance of adequate  
12 peak hour supplies; and (2) its perceived need to be able to ensure reliable service  
13 for **all** Aquidneck Island customers under **all** scenarios, including upstream  
14 disruptions of interstate pipeline supplies. The Company offers estimates of the  
15 impacts of such factors as: (a) a moratorium on new gas connections; and (b)  
16 Company-sponsored Energy Efficiency, DSM, and Electrification programs. But,  
17 those estimates are based on system-wide program offerings (not programs  
18 focused on Aquidneck Island requirements), and as previously discussed,  
19 forecasts of Aquidneck Island gas service requirements that are not reflective of  
20 actual customer operations on the island.

21

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1 **Q. IS IT REASONABLE TO EXPECT THAT A GAS DISTRIBUTION UTILITY, WITH**  
2 **NO WELLHEAD GAS PRODUCTION IN ITS SERVICE TERRITORY AND**  
3 **LIMITED OR NO ON-SYSTEM GAS STORAGE, SHOULD BE ABLE TO**  
4 **MAINTAIN RELIABLE GAS SERVICE FOR ALL OF ITS FIRM SERVICE**  
5 **CUSTOMERS IN THE EVENT OF AN UPSTREAM SUPPLY DISRUPTION ON A**  
6 **MAJOR INTERSTATE GAS PIPELINE, SUCH AS THAT OPERATED BY AGT?**

7 A. No. Most gas distribution utilities would be unable to maintain gas service to all of  
8 their firm customers during primary heating season months if gas flows from one  
9 or more interstate pipeline suppliers were impacted by a significant disruption.  
10 Except where a distribution system is located in close proximity to wellhead gas  
11 production or has substantial on-system underground storage, the design of a  
12 distribution system to meet the criteria the Company seems to suggest for  
13 Aquidneck Island would add substantial costs to the gas distribution system and  
14 likely render gas distribution service an uneconomic alternative.

15 The Commission should also recognize that a major upstream supply  
16 disruption on the Algonquin Gas Transmission system would likely impact the  
17 availability of gas for extensive numbers of customers in other parts of TNEC's  
18 Rhode Island gas system. Yet, TNEC has made no proposals to ensure uninter-  
19 rupted gas service under such conditions for customers in other parts of its system.  
20 For these reasons, we reiterate that the primary consideration in determining the  
21 need for LNG vaporization on Aquidneck Island should be ensuring adequate gas  
22 supply under design day and design peak hour conditions.

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**Q. DOES THE ANTICIPATED NEED TO REPLACE ALGONQUIN DELIVERIES DURING PERIODS OF PLANNED CONSTRUCTION OR MAINTENANCE ON THE PIPELINES SERVING AQUIDNECK ISLAND ADD STRENGTH TO THE COMPANY’S SUPPORT FOR ITS PROPOSED AQUIDNECK ISLAND LNG VAPORIZATION PROJECT?**

A. No. The proposed periods for AGT construction would be limited to summer periods when Aquidneck Island volume requirements are low and disruptions would be of relatively short duration. TNEC’s estimates of those requirements are set forth in the Company’s response to Division Data Request 1-2.<sup>23</sup> Such limited and infrequent requirements do not warrant investment in more permanent LNG vaporization facilities for Aquidneck Island. The Company has not quantified the incremental costs of leasing equipment for those limited duration off-peak activities. It has also not addressed the responsibility, if any, that AGT would bear for the costs of supplemental supplies during such interruptions, nor has TNEC identified critical or essential services that would be negatively impacted by limited duration (less than three day) summer month outages. In past Long-Range Planning Studies, the Company has offered estimates of the costs customers would experience as a result of outages during extreme winter weather conditions.

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<sup>23</sup> TNEC’s response to Division Data Request 1-2 indicates there could be one or two outages of approximately three day’s duration where average Aquidneck Island gas service requirements during summer months is estimated at approximately 2,000 Dth/day.

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1           However, the Company offers no assessment of the costs of the predictable and  
2           limited duration summer month outages that AGT's construction activities might  
3           impose.

4

5           **C. Other Alternatives to LNG Vaporization**

6

7           **Q.    ARE THERE ALTERNATIVES TO LNG VAPORIZATION ON AQUIDNECK**  
8           **ISLAND THAT TNEC HAS NOT CONSIDERED?**

9           A.    Yes. As previously discussed herein, the Company's assessment of alternatives  
10           to LNG vaporization on Aquidneck Island lack consideration of programs focused  
11           on the island's attributes and service requirements. We understand that TNEC's  
12           gas dispatch activities and system operations are designed to optimize its overall  
13           system. However, in this instance programs targeted to Aquidneck Island may  
14           produce greater overall benefits for both Aquidneck Island customers and the  
15           Company's overall system due to this rather unique opportunity to avoid a major  
16           capital expenditure, as well as avoiding a significant addition to annual operating  
17           costs.

18

19           **Q.    WHAT ADDITIONAL ALTERNATIVES TO LNG VAPORIZATION SHOULD BE**  
20           **CONSIDERED?**

21           A.    Among the alternatives we consider are:

22

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- 1           • Targeted Electrification and Energy Efficiency Programs;
- 2
- 3           • An Aquidneck Island-specific interruptible rate offering with island-
- 4           specific service interruption criteria that is designed to encourage
- 5           greater participation by larger Aquidneck Island customer in the
- 6           Company’s interruptible service offerings;
- 7
- 8           • The establishment of service curtailment priorities to ensure that, in
- 9           the event of an unforeseen upstream gas supply disruption, gas
- 10          service to **essential users** is maintained.
- 11

12 **Q. HOW WOULD TARGETED ENERGY EFFICIENCY AND/OR ELECTRI-**  
13 **FICATION FOR AQUIDNECK ISLAND DIFFER FROM THE PROGRAMS THE**  
14 **COMPANY HAS ALREADY DEVELOPED?**

15 A. Programs targeted for Aquidneck Island would devote a greater portion of the  
16 planned system-wide expenditures for those programs to Aquidneck Island  
17 activities. Such targeting would recognize that the opportunity to avoid a major  
18 capital expenditure and added operating costs could provide enhanced overall  
19 system benefits per dollar spent when compared with similar expenditures made  
20 for other parts of the Company’s RI gas system.

21

22 **Q. WHY DOES A TARGETED INTERRUPTIBLE SERVICE OFFERING FOR**  
23 **AQUIDNECK ISLAND WARRANT CONSIDERATION?**

24 A. Given TNEC concerns regarding contracted pipeline capacity constraints and the  
25 potential for upstream supply disruptions, the criteria for interrupting service on  
26 Aquidneck Island may need to be different from the criteria the Company generally  
27 uses for determining interruptions or curtailments of service to interruptible

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1 customers on other parts of its system. Moreover, with the potential for greater  
2 cost avoidance (through elimination of the need for LNG vaporization on the  
3 island), it is conceivable that lower interruptible rates and/or larger interruptible  
4 service credits may be justifiable for Aquidneck Island participants.

5  
6 **Q. ARE THERE PRECEDENTS FOR THE ESTABLISHMENT OF GAS CURTAIL-**  
7 **MENT PRIORITIES?**

8 A. Yes. In the mid to late 1970s several areas within the U.S. faced potential gas  
9 supply shortages. In response to that potential for gas supply shortages, a number  
10 of jurisdictions established gas curtailment priorities that were designed to ensure  
11 that essential end uses would be better insulated from the impacts of gas supply  
12 shortages, particularly during periods of seasonal peak demands. Curtailments  
13 are not a preferred approach. However, curtailments of non-essential gas uses  
14 during infrequent and comparatively limited-duration extreme weather events may  
15 be preferable to more generalized service disruptions. Furthermore, customers  
16 with low curtailment priorities may perceive greater incentive to investigate energy  
17 efficiency or electrification alternatives.

18  
19 **D. Integration with Climate Act Considerations**

20  
21 **Q. WHAT EVIDENCE HAS TNEC OFFERED WITH RESPECT TO THE GHG**  
22 **EMISSIONS IMPACTS OF LNG VAPORIZATION ON AQUIDNECK ISLAND?**

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1 A. TNEC’s estimates of GHG emissions associated with LNG vaporization on  
2 Aquidneck Island are discussed in the Direct Testimony of witness Olney. His  
3 testimony describes analyses of alternative scenarios that focus heavily on  
4 differences in relative emissions rates for the mix of end uses employed by  
5 residents and businesses on Aquidneck Island (i.e., the portions of end use  
6 requirements satisfied by pipeline gas, fuel oil, and electricity). Yet, the emissions  
7 directly attributable to the proposed LNG vaporization process are not well  
8 developed.

9           Witness Olney states, “... *the Project is not expected to be utilized in normal*  
10 *operation.*”<sup>24</sup> However, the Company’s Long-Range Resource and Requirements  
11 plan, which includes projections through the 2026/27 planning year, shows the  
12 same projected volumes from portable LNG equipment for a “**Normal**” heating  
13 season that it projects for a “**Design**” heating season.<sup>25</sup> Further, we observe that  
14 the Company’s estimates of methane emissions for Aquidneck Island natural gas  
15 distribution are premised on **Rhode Island-wide** methane losses without any  
16 investigation of potential differences between losses from actual Aquidneck Island  
17 facilities and those for the rest of the Company’s distribution system.

18

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<sup>24</sup> The Direct Testimony of TNEC witness Olney at page 6, lines 7-8.

<sup>25</sup> TNEC’s “*Gas Long-Range Resource and Requirements Plan for the Forecast Period 2022/23 to 2026/27,*” Docket No. 22-06-NG, June 30, 2022; Exhibit 15.

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1 **Q. SHOULD THE COMMISSION ACCEPT TNEC’S ESTIMATES OF GHG**  
2 **IMPACTS?**

3 A. No. We express three concerns regarding the Company’s estimates of GHG  
4 impacts resulting from the proposed LNG vaporization project for Aquidneck  
5 Island.

6 First, as previously noted, the baseline assumptions used in calculating the  
7 project’s GHG impacts appear inconsistent with the Company’s load forecasting  
8 assumptions for Aquidneck Island.<sup>26</sup>

9 Second, witness Olney offers only a limited perspective on GHG impacts  
10 addressing only “relative” changes in GHG emission levels, and not specifically  
11 addressing estimated Scope 1 or Scope 2 emissions for the LNG project itself.

12 Third, we do not accept the Company’s representation that “*there are no*  
13 *emissions impact directly from [LNG vaporization} Project.*”<sup>27</sup> We recognize that  
14 the GHG impacts of a sparingly used LNG process may appear comparatively  
15 limited in terms of its contribution of additional GHG emissions. However, the  
16 available evidence<sup>28</sup> suggests that added GHG emissions should be anticipated  
17 as the result of LNG vaporization on Aquidneck Island. Those added emissions  
18 can be expected to include emissions from: (a) necessary LNG trucking activities;

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<sup>26</sup> This observation is focused on the observed inconsistency and should not be interpreted as an endorsement of either set assumptions.

<sup>27</sup> The Direct Testimony of TNEC witness Olney at page 6, line 4.

<sup>28</sup> See the description of LNG vaporization activities offered in the Direct Testimony of TNEC witness Kirkwood at page 5, line 8, through page 7, line 14, as well as the Company’s response to Middletown Data Request 2-6.

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1 (b) energy used to maintain LNG vaporization equipment in a ready state during  
2 winter periods; and (c) the expectation that some LNG Boil-Off Gas (“BOG”) will  
3 be released into the atmosphere as part of normal operations (as explained in the  
4 Company’s response to Middletown Data Request 2-6). The only recognition of  
5 such emissions we can find in the Company’s submissions in this proceeding is  
6 found in a note below Table 1-8.1 in TNEC’s response to PUC Data Request 1-8.  
7 In that note, the Company observes that “... *portable LNG has a higher total*  
8 *effective emissions rate than pipeline gas ...*” Yet, no quantification of the  
9 differences in emissions rates for portable LNG operations and pipeline gas is  
10 provided.

11  
12 **Q. DOES WITNESS KIRKWOOD TESTIFY REGARDING THE MANNER IN WHICH**  
13 **THE COMPANY PLANS TO CAPTURE BOG AND INJECT IT INTO THE**  
14 **DISTRIBUTION SYSTEM, RATHER THAN VENTING INTO THE**  
15 **ATMOSPHERE?**

16 A. He does. His discussion of BOG capture indicates that the avoidance of venting  
17 BOG into the atmosphere is the Company’s “*preferred*” approach. However,  
18 TNEC’s response to Middletown Data Request 2-6 clarifies the conditions under  
19 which methane would be manually released into the atmosphere as part of **normal**  
20 **operations** for the Aquidneck LNG facility.

21

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1 **Q. HAS THE COMPANY ESTIMATED THE IMPACTS OF EITHER (a) AN**  
2 **UPSTREAM SUPPLY DISRUPTION OR (b) EXTREME COLD CONDITIONS ON**  
3 **EXPECTED GHG EMISSIONS?**

4 A. No. Although those situations are the drivers of TNEC’s perceived need for LNG  
5 vaporization on Aquidneck Island, the Company has made no specific estimates  
6 of the GHG emissions that could be anticipated under such conditions. We  
7 appreciate that the quantification of such GHG impacts may be impeded by the  
8 infrequent nature of such events and considerable uncertainties regarding the  
9 magnitude and duration of any upstream pipeline supply disruption that may occur  
10 (other than those that result from scheduled maintenance or construction  
11 activities). However, it appears clear that even if upstream supply disruptions or  
12 extreme cold conditions are not experienced in any given winter period,  
13 incremental GHG emission should be anticipated simply as a result of maintaining  
14 the Company’s LNG facilities in a “ready” state. Thus, more well developed  
15 estimates of the Scope 1 and Scope 2 under varying scenarios (i.e., (a) ready but  
16 not used, (b) unexpected upstream gas supply disruptions of various magnitudes;  
17 and (c) design weather conditions) should be required as part of the Company’s  
18 assessment of the GHG impacts of the proposed project.

19

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1       **E. Cost Justification for the Proposed Project**

2

3       **Q.    ARE YOU PREPARED TO ADDRESS TNEC’S COST JUSTIFICATION FOR**  
4       **AQUIDNECK ISLAND LNG VAPORIZATION PROJECT AT THIS TIME?**

5       A.    No. In the absence of the Company’s anticipated testimony on Cost Recovery  
6       issues, we believe efforts to address the Company’s cost justification for its  
7       Aquidneck Island LNG vaporization project would be premature and potentially  
8       inconclusive at this time.

9                We also observe that cost-justification for the project is, at best, difficult in  
10       the absence of a clear statement of the project’s expected useful life. The GHG  
11       emissions assessments offered by TNEC witness Olney appear to suggest that  
12       the project may have a useful life of as little as 10 to 12 years. As the useful life of  
13       the project shortens, the annualized capital costs for the project (including return,  
14       taxes and depreciation) tend to increase, potentially rendering it a less cost-  
15       effective endeavor.

16

17                               **V. CONCLUSION AND RECOMMENDATIONS**

18

19       **Q.    WHAT ARE THE CONCLUSIONS AND RECOMMENDATIONS THAT YOU**  
20       **OFFER THE COMMISSION IN THIS PROCEEDING?**

21       A.    First, based on the extreme weather conditions experienced on February 3, 2023,  
22       we recognize that there is currently a need for LNG vaporization on Aquidneck

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1 Island to supplement TNEC’s contracted pipeline gas deliveries under extreme  
2 winter weather conditions. However, we do not believe the Commission should  
3 accept the Company’s estimates of future shortfalls in gas supply capacity under  
4 design weather conditions. We also find no reason to give substantial weight to  
5 the Company’s repeatedly expressed concerns regarding the potential impacts of  
6 upstream pipeline gas supply disruptions. However, the Company’s submissions  
7 in this proceeding leave unanswered questions regarding the amount of time and  
8 expense TNEC will require to eliminate its need for LNG vaporization on Aquidneck  
9 Island. We believe more geographically sensitive and Aquidneck Island customer  
10 sensitive forecasting efforts may significantly reduce, if not eliminate, the  
11 Company’s forecasted peak hour gas supply shortfalls and thereby allow much  
12 earlier elimination of LNG vaporization requirements.

13 Second, greater examination of the energy efficiency programs, electri-  
14 fication programs, and rate structure programs that focus on the specific needs of  
15 Aquidneck Island is needed. Given the potential for avoiding a \$15 million invest-  
16 ment and \$1.5 million in annual operating costs, the Company’s offerings for  
17 Aquidneck Island customers can be enhanced relative to those for other parts of  
18 its system without eroding the cost-effectiveness of such offerings. We believe the  
19 combination of more Aquidneck-sensitive forecasting and Aquidneck-focused  
20 programs to reduce gas use on the island can produce sufficient design peak hour  
21 load reductions to provide for reasonably near-term elimination of LNG  
22 vaporization requirements for Aquidneck Island. However, if that is not the case,

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1           the Commission should consider: (1) a moratorium on new gas service  
2           connections; and/or (2) instituting service curtailment priorities to provide for  
3           removal of non-essential gas uses from the system during comparatively rare  
4           extreme weather conditions which might otherwise yield a gas supply capacity  
5           shortfall if the Company's LNG vaporization project is not pursued.

6

7   **Q.    DOES THIS CONCLUDE YOUR TESTIMONY?**

8   A.    Yes, it does.

9